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FOOT-AND-MOUTH DISEASE.

Very curious are the repeated separate outbreaks of foot-and-mouth disease. For some reason unknown the Eastern Counties, now and some years ago, seem to be the centre in which the disease originates and from which it spreads. As the infection undoubtedly comes from the Continent, where the disease prevails, we should expect to find its introduction accompanied by outbreaks near to or around the ports on the eastern coast. But no one has yet traced any of the recent outbreaks to a definite origin, and no theory quite accounts for the curious manner in which the disease has appeared at such distant places. If we suppose that the whole of the outbreaks which have been detected during the last few months proceeded from one importation of infection, then we are bound to allow that some intermediate and undiscovered outbreaks have existed. That some stockowners might have the disease and not report it is possible, and in the case of sheep such negligence might be accompanied by ignorance of the nature of the malady. We should be sorry to think any stockowner would knowingly run the risk of not reporting foot-and-mouth disease if he recognised it.

The four centres of disease near Ipswich have been dealt with. The outbreak at Birchington, near Margate, affects both sheep and cattle, and the country is one in which the spread of the disease is easy unless the whole infected area is surrounded.

In the face of repeated outbreaks of disease and absolute want of knowledge as to the method by which infection is introduced we should look sharply after all probable or possible means by which disease could be carried from the Continent. Suspected objects are—straw used for packing; men passing direct from foreign infected farms to Eastern county farms; dead calves with the skin on—sent in hundreds and never inspected; sheep's heads and trotters—uncleaned and uninspected; tongues, tails, and offal sent as food.

Until it is certain that these things do not carry infection they should be treated as suspect and undergo inspection at the port of landing. If we continue to have annual outbreaks of Foot-and-Mouth Disease the free-trade party in this country will have reason to ask whether the prohibition of live cattle from abroad and from the Colonies is really an economic necessity and whether it is any protection to stock-owners.

We have reproduced this week the illustration of Mr. Wolstenholme's case of Eczema. The same block has been used, and practical photographers will recognise the causes of last week's imperfections.

MENIÈRE'S DISEASE IN THE HORSE.

By ELVIN PLANT, M.R.C.V.S., Middlewich.

Subject.—Black harness gelding—one of a pair—six years old. Was purchased last summer from a dealer. He had been in present owner's possession about a month when the coachman noticed him occasionally suddenly shake his head and "clap" his off ear for a minute or so when being driven. At first no notice was taken of it, but as the attacks continued at intervals suspicion was aroused that something out of the common was amiss. These attacks did not occur every time he was put in harness; he would perhaps be driven two or three journeys without showing anything unusual, but the next time would show it several times in a drive of as many miles.

When I was called in to examine the horse I made a most careful examination of the ear both internally—as far as possible—and externally, but failed to detect anything to account for the peculiar symptoms. I may say that he has never been seen to show anything of it whilst in the stable.

Diagnosis.—At first I was at a loss to know what the exact nature of the disease was, but came to the conclusion the horse had probably had a blow over the base of the ear which was giving rise to irritation internally, this being aggravated by an ill-fitting bridle. I must say I felt far from certain as to the correctness of my diagnosis, as the history of the case was, as is our knowledge of the diseases of the ear, very scant, I was therefore guarded in my prognosis.

Treatment.—Warm fomentations to the base of the ear, ol. olivæ et tr. opii. poured slowly into the ear night and morning. This was continued for about three weeks, but with no good results. I also had the headpiece of the bridle lined with very soft felt and put on as loose as was consistent with safety. I next wrote to the late lamented Principal Williams, describing the case fully to him, and he informed me that in his opinion I had a case of Menière's disease to contend with. He further stated that he had seen several cases, only one of which recovered, and that was treated by a "doctor" with ʒj. doses of pot. iodide and ʒss. doses of pot. nit. night and morning, remarking that I might try the same and perhaps learn a lesson from a fool.

I have tried it, and for a time there seemed considerable improvement, though I am sorry to say that improvement has not been fully maintained.

Since adopting this last course of treatment I have come across *The Veterinary Journal* for June, 1891, which contains a copy of a paper read before the Central Veterinary Medical Society headed "Does

Menière's disease affect the horse?" in which was described two cases that have come under observation, the symptoms of which were similar to those shown by my patient. With regard to treatment it says—"owing to the unsatisfactory state of our pathological knowledge of neurotic diseases of the ear of the horse, anything in the way of treatment must be of an empirical nature."

If any brother practitioner has had a similar case and treated it successfully I shall be very grateful for any information that might be the means of bringing my case to a successful issue.

SCROTAL HERNIA.

Subject.—Aged 18 years, bay Arab horse.

History.—Seized with colic while at work 8 a.m. Brought to hospital for treatment at 4.30 p.m. having been given half pint of whiskey by owner at 10 a.m. and receiving the usual Indian massage and walking exercise. On arrival at hospital showed severe colic pains, membranes much injected, pulse 90, temperature 103·2. Gave tr. opii. ʒij. and found small scrotal hernia on right side.

Treatment.—5.30 p.m. cast and reduced hernia by manipulation, applied ligature bandages to scrotum. Gave tr. opii. ʒi., and mag. sulph. ʒiij. in drinking water. Passed quiet night.

2nd day, 6 a.m., removed ligature, gave bran mash mag. sulph. ʒj, repeated twice during day. Noon: membranes normal, pulse 47, temp. 101·4, scrotum swollen. 9 p.m.: Swelling of scrotum diminishing.

3rd day, 8 a.m.: Pulse 48, temp. 101·2, scrotum normal. 5.30 p.m.: Discharged for work next day.

Two months later arrived at hospital 6.30 p.m. with symptoms similar to before, colic being apparent at 5 p.m. after a smart trot up hill; pulse 64, temp. 101·8, large hernia right side of scrotum. Prepared and cast at once, failed to reduce hernia after one hour manipulation. 8.30 p.m.: Chloroformed, excised right testicle, reduced hernia, sutured. Testicle tissues and skin all adherent, probably from previous manipulation first attack.

Gave tr. arnicæ *m*x. in drinking water three times daily; except for expected swelling of scrotum did well till 10th day when tetanus set in and animal was slaughtered at owner's request.

Note.—Post-mortem not being pleasant in heat of day none was made, real reason; stated reason pressure of work. The usual practice in this hospital is to cleanse the scrotum after castration once or twice a day with a solution of pot. permang. or creolin, in this case this was omitted from a desire not to interfere too much with the parts, subsequently in other cases it was again resorted to and tetanus did not occur.

If there had been 100 cases of tetanus in unwashed cases, there might have been a basis for a statistical fact, as it is there shall be no comment.

THE DOCTOR SAHIB.

PARALYSIS OF TAIL, RECTUM AND BLADDER.

By WM. PAUER, M.R.C.V.S., Blackwater.

Subject.—Grey van gelding, seven years old, in regular work.

History.—Owner said that for some months the horse had difficulty in passing dung, that he was unable to raise his dock, and that his water was running away. Latterly, he said, he had become gradually worse, so that he was obliged to assist him by removing the dung by hand.

Symptoms.—Anus much dilated, loss of power of resistance in the dock; rectum enormously distended and packed with fæces: very much marked atrophy of muscles of off hind quarter particularly the large gluteus and semitendinosis, this was especially noticeable as the animal was in good condition with the muscles of the near quarter well developed; inability to retain the urine which was almost continually trickling away.

Treatment.—ʒss. liq. strychninæ hydrochlor. once daily in the food, and regular removal of fæces from rectum. As after a month's treatment there was no improvement the horse was destroyed and a careful post-mortem examination made by me failed to discover any cause.

RUPTURED BLADDER IN A PIG.

On Sunday, Jan. 13th, I was called out to see a pig. On arriving the owner told me he thought its back was broken.

History.—Owner said that on the previous Tuesday the pig had a fit and that the other three in same stye had been routing it about and that when he wanted to move it he found it could not use hind quarters at all. He put it in a stye by itself and said that it had mended in condition and eaten well all the time. I examined the pig, found it sitting up like a dog, with hind legs thrown to one side—left side. Abdomen looked swollen, when asked to move trailed hind legs behind it. The pig looked healthy and bright and could scramble round stye pretty smartly. I advised owner to slaughter, which he did at the time I was there.

Post mortem—On opening the abdominal cavity about five quarts of clear liquid smelling very strongly of urine escaped. The bowels looked healthy, in fact all the viscera appeared normal. I asked the butcher to get out the bladder very carefully, which he did. On examining same I found a longitudinal rupture about four inches long. The bladder walls appeared to be of normal thickness, there was no stricture and no growth in vulva to cause retention.

I think the bladder must have been ruptured on the Tuesday, according to the quantity of fluid present. What struck me the most was, there not being any peritonitis present. Also no signs of uræmic poisoning, which one would have thought would have shown itself, with that quantity of urine in contact with the peritoneum. It shows that the

kidneys are excellent filters and that the urine must have been aseptic, or the pig must have succumbed from septic peritonitis. I am told that it is fairly common for pigs to cause rupture of the bladder by rooting one another, but this is the first case I have seen. I should like to ask some of your older readers their opinion, and if it is usual for pigs to live so long without peritonitis setting in.

WM. COLLINSON.

12 Frederick Street, Rotherham.

FOREIGN BODIES IN COLON.

I was attending a horse suffering from, as I thought, and which the post-mortem proved correct, strangulated intestine. I forget the particulars, as it is now some three or four years ago, but I had the animal killed, and after satisfying myself as to the cause of illness I made a cut into the colon and my knife struck some metal. On searching further I found about a teacupful of small pieces of cups, plates, etc., four nails about an inch long, a farthing, three brass brace buttons, and a piece of slate pencil. The horse was an aged one belonging to a schoolmaster and frequently turned out to graze in a meadow where the boys played.

E. M.

FIXING APPARATUS IN VETERINARY PRACTICE.

The trevis is no new thing, for it has been known at least since the commencement of last century, but it has only been confined to forges in large cities or to a country veterinary establishment here and there. Some of them are elaborate others are simple. The one figured in *The Veterinary Record*, p. 402, Jan. 26th, 1901, seems to be an admixture of the simple form with an appliance used in some practices in Paris. This latter consists of a pair of slings and a pulley fixed to the ceiling or beam above to suspend the horse, and four rings fixed in the ground to attach the four feet respectively to by means of hobbles. Every, or almost every, veterinary surgeon has this material by him. No posts or pillars are required, no space permanently occupied. Animals can be castrated, spayed, fired, etc., with very little danger to themselves, the operator, or attendant.

Some of the expensive, permanent, and elaborate apparatus are very far from safe unless great care is used. Probably the most useful of all for all-round requirements is the "Travail-bascule"—an invention of Monsieur Vinsot, a veterinary surgeon practising at Chartres, France, who has made eight successive attempts during the last seventeen years to bring his machine (known in this country as "Dollar's Operating Table for horses") to its present state of perfection. He advises the administration of from 20 to 40 grammes of sulphonal in a bran mash half-an-hour before putting nervous or well bred animals in his apparatus.

As to appliances for fixing small animals scores have been invented in France and Germany, and the majority resemble in principle that known in this country as suggested by Prof. Hobday. To my way of thinking the "Appareil à contention Latapie" as used in the Institut Pasteur and the Alfort Veterinary School is the best, as the animal is easily fixed and held in position by means of springs, on either a glass or mahogany slab. Its drawback is its expence, but to have one of these in your establishment may act as a splendid advertisement and consequently quickly pay for itself. If any of your readers would like to know more about the various appliances for rendering small animals helpless they cannot do better than drop Messieurs Cogit et Ciè, 49 Boulevard, St. Michel, Paris, a penny post-card for one of their illustrated price lists. This is not an advertisement but a means of diffusing information. I am afraid that a good many of the so-called patents and registrations of designs relating to veterinary material, figured in books, price lists, etc., would stand a very poor chance if they were slightly strained.

In conclusion, I do not see why members of the profession want to protect anything they invent for the use of their brethren? A medical man is debarred protecting anything he invents for use in his profession. But it may advertise him all the same, at least in the eyes of his profession. However, don't let this deter men from writing to the journals knowledge and ideas likely to benefit their *confrères*.

"OBSERVER."

ABSTRACTS FROM FOREIGN JOURNALS.

INFLUENCE OF THE OVARIES ON THE DEVELOPMENT OF THE GENITALS.—By J. HALBAN. (*Monthly Periodical of Aids to Parturition and Gynæcology*).

Halban questions whether the fallopian tubes and uterus atrophy after transplantation as is the case after removal of the ovaries.

Knauer has satisfied himself that gravidity may occur in rabbits after both ovaries had been transplanted some great distance in the mesentery.

Halban by experiments on guinea-pigs found that normal ovarian tissue suffices for the normal development of the genitals.

(In castrated animals the uterus was quite as small as in that of newly-born animals; in guinea-pigs where the ovaries had been transplanted under the skin the uterus was largely develoved). From this it may be assumed that atrophy of the uterus is not the result of the severing of the spermatic artery or of the nerve union, for although the spermatic artery and nerve are severed in transplantation the uterus does not atrophy. The trophic influence of the ovaries is a consequence of the internal secretion of the sexual glands.

M. G. DE BRUIN.

—*Berliner Thierärtz Woch.*

G. M.

REPORT OF THE TUBERCULIN COMMITTEE OF THE ROYAL AGRICULTURAL SOCIETY OF ENGLAND.

(*Continued from p. 424.*)

Fourth Series.

The following ten animals formed one lot of 18-month old shorthorns purchased for experiment on May 2, 1900. They were all in good condition, and quite healthy looking; but the preliminary test with tuberculin, on May 15, indicated that four of them (Nos. 19 to 22) were already the subjects of tuberculosis. They were killed on May 22, and the post-mortem examination revealed in each of them distinct tuberculous lesions, of considerable standing. The following are the particulars relating to these four animals :—

No. 19.

		React.	Max. rise.
May 15.	Tested, 2 c.c. tuberculin	+	3·6
21.	,,	—	·5

Killed May 22. Tuberculous lesions in several mesenteric glands, peritoneum, lungs, and mediastinal glands.

No. 20.

		React.	Max rise.
May 15.	Tested, 2 c.c. tuberculin	+	6
21.	,,	+	3·9

Killed May 22. *Lesions*—Tubercles in two mesenteric glands.

No. 21.

		React.	Max. rise.
May 15.	Tested, 2 c.c. tuberculin	+	6
21.	,,	—	1

Killed May 22. *Lesions*—Tubercles in bronchial gland.

No. 22.

		Reactn.	Max. rise
May 24.	Tested, 2 c.c. tuberculin	+	3·7
21.	,, (somewhat erratic rise)	?	2.8

Killed May 22. *Lesions*—Tubercles in pharyngeal gland.

In these four cases the post-mortem examination proved the correctness of the indication afforded by the first test with tuberculin. A further point of interest in connection with them is, that the second test, six days after the first, would have acquitted two of them of any suspicion of tuberculosis had it not been known that they had previously been tested.

The following six animals (companions of the preceding four) were purchased on May 2, tested without reaction on May 15, experimentally infected with tuberculous material on May 28, and afterwards tested with an ordinary dose of tuberculin at intervals in order to ascertain how soon each would react. The method of infection was as follows : Pieces of caseous matter from the tuberculous lung and lymphatic gland of a cow, to the volume of a hen's egg, were rubbed up in a mortar with three pints of water, and half a pint of this liquid was administered to each animal by the mouth :—

No. 23.

		React.	Max. rise
May 15.	Tested, 2 cc tuberculin	—	·5
28.	Fed with tuberculous material		
31.	Tested, 2 c.c. tuberculin	—	·4
Ju. 21.	,,	+	3·8
July 7.	,,	+	4·0
18.	,,	?	1·4

Killed July 19. Tubercles in pharyngeal and mesenteric glands.

No. 24.

		React.	Max. rise
May 15.	Tested, 2 c.c. tuberculin	—	·5
28.	Fed with tuberculous material		
Ju. 6.	Tested, 2 c.c. tuberculin	—	·6
24.	,,	—	·2
July 7.	,,	+	4·4
18.	,,	+	3·8

Killed July 19. Tubercles in three mesenteric glands.

No. 25.

		Reactn.	Max. rise
May 15.	Tested, 10 c.c. tuberculin	—	1·6
28.	Fed with tuberculous matter.		
Ju. 10.	Tested, 2 c.c. tuberculin	—	·4
24.	,,	—	·4
July 7.	,,	—	·4
18.	,,	+	3·2

Killed July 19. Tubercles in two mesenteric glands.

No. 26.

		Reactn.	Max rise.
May 15.	Tested, 2 c.c. tuberculin	—	1·8
28.	Fed with tuberculous matter.		
Ju. 3.	Tested, 2 c.c. tuberculin	—	·6
24.	,,	—	1·8
July 7.	,,	—	·3
18.	,,	+	2·6
26.	,,	+	3·4

Killed July 28. Tubercles in four mesenteric glands.

No. 27.

		React.	Max rise
May 15	Tested, 2 c.c. tuberculin	—	1
28.	Fed with tuberculous matter		
Ju. 13.	Tested, 2 c.c. tuberculin	—	1
July 7.	,,	+	2·8
18.	,,	+	2

Killed July 12. Tubercles in pharyngeal gland.

No. 28.

		Reactn.	Max rise.
May 15.	Tested, 2 c.c. tuberculin (erratic rise)	?	2·7
28.	Fed with tuberculous matter.		
Ju. 17.	Tested, 2 c.c. tuberculin	—	0
July 7.	,,	+	3·8
18.	,,	+	2·7

Killed July 19. Tubercles in pharyngeal gland.

It will be observed that none of these animals, except No. 28, reacted to the first test after purchase In the case of No. 28, the temperature rose 2·7°, but the course was irregular, and the case had to be considered doubtful. After the administration of the tuberculous material all the animals acquired the power of reacting, but the considerable period that elapsed before a reaction could be obtained is somewhat remarkable. This period was longest in No. 26, which entirely failed to react on the 40th day, but did react on the 51st day, and again on the 59th day. It is impossible in the present state of knowledge to account for this peculiar fact, but it may be pointed out that it certainly was not due to the actual infection—that is to say, the penetration of the bacilli into the tissues—having been delayed, for in all these animals the appearance of the lesions found at the post-mortem examination indicated that they must have been in existence for several weeks, and indeed were in keeping with the view that they had come into existence very soon after the administration of the infective material on May 28. It has for some time been well known that a first reaction in a tuberculous animal may prevent one from obtaining a second decided re-

action when the test is repeated soon afterwards, and a good many examples of that are seen in the series of experiments here recorded. It appears to be possible that injections of tuberculin during what may be termed the period of incubation of the disease may have a like effect, although they do not elicit a reaction. If that explanation of the delayed reaction in these cases be rejected, then one would have to admit that in perfectly natural circumstances an animal that had contracted the seeds of the disease might, even with the tuberculin test, pass for healthy for a period of six or seven weeks.

Finally, in connection with this lot of animals, it ought to be mentioned that none of the lesions had an appearance indicating that they must have been in existence when the cattle failed to react to the first test on May 15th.

Analysis of the Results.

Accepting a steady ascent of the temperature of 2° or more during the twelve or fifteen hours after the injection of tuberculin as a reaction, an analysis shows that six of the animals reacted distinctly to the first test, while seventeen did not react, and five had an uncertain rise of temperature.

In the six animals that reacted the post-mortem examination verified the correctness of the reaction (Nos. 3, 12, 19, 20, 21, and 22). In 15 of the 17 animals in which there was no reaction to the first test, the post-mortem examination disclosed nothing to suggest that the tuberculin had given a wrong indication (Nos. 1, 6, 7, 8, 10, 11, 13, 14, 16, 17, 18, 23, 24, 25, and 27) (*). In one of the remaining animals (No. 2), the tuberculin appears to have given a wrong indication, and in the other (No. 4) it certainly did.

There remain the five animals in which the result of the first test was dubious. The post-mortem examination indicated that four of these had not been tuberculous at the time of the first test (Nos. 9, 15, 26, and 28). The remaining animal was No. 5, which, although it did not react on the first occasion, reacted repeatedly to later tests. Nevertheless, no trace of tuberculosis was discovered in it after death.

If No. 5 be reckoned with the reacting animals, as it is clearly entitled to be, the general result may be stated thus :—

The indication afforded by the tuberculin test appears to have been right in 21 and wrong in 3 (these including one certain error).

Turning, in the next place, to the infections, it will be found that (excluding No. 2, where the tuberculin was apparently in error, and No. 10, in which the temperature became too high to permit of testing) an attempt was made to infect 16 presumably healthy non reacting animals. The post-mortem examination proved that the attempt was successful in 15 of these, and all, without exception, acquired the property of reacting to tuberculin, but at very various intervals after infection. In the 16th case the animal never acquired this property, and the post-mortem examination indicated that the attempt to infect it had failed.

The following table shows the method of infection and the first date on which a distinct reaction was obtained :—

No.	Method of infection.	Day of 1st. reaction.
1	intra-venous	12th
7	,,	23rd
8	,,	13th
9	,,	8th
11	,,	15th
15	,,	8th
16	,,	15th
13	Into flank	8th
14	,,	15th
18	By feeding	8th
23	,,	24th
24	,,	40th
25	,,	51st
27	,,	40th
28	,,	40th

The facts relating to behaviour with regard to second or later tests with tuberculin are so variable that it is not possible to summarise or tabulate them. The Committee believe that there is a widespread opinion that a tuberculous animal which has reacted distinctly to tuberculin will not react distinctly if the test is repeated after a short interval. If this is a rule, it is subject to numerous exceptions. The important fact, however, remains that in a good many cases a second reaction is not obtainable soon after the first, and by repeated injections an animal may acquire a high degree of tolerance for tuberculin.

It is interesting to recall the fact that although tuberculin has acquired its reputation mainly in consequence of the assistance which it lends to diagnosis, it was first put forward as a curative agent. Some of the earlier experiments of the Committee (see No. 2) yielded results which suggested that repeated injections of tuberculin retarded the course of the disease ; but this view was not supported by the results of some of the later experiments, in which the disease made more rapid progress in an animal treated with tuberculin than in a parallel case left untreated. In reality the experiments have not been sufficiently numerous to justify a positive opinion on the question. It is, however, very obvious from the experiments that, if tuberculin does not influence the course of the disease, the individual resistance to infection varies considerably, and that in some animals it is so high as to enable them to withstand a dose of tubercle bacilli that is rapidly fatal to others of the same size, age, and breed.

CONCLUSIONS.

Touching the question of the reliability of tuberculin as a test for tuberculosis in cattle, the Committee believe that the results of their own and other experiments justify the following statements :—

1. With few exceptions manifest tuberculous disease is discoverable at the post-mortem examination of animals in which there is a decided rise of temperature after the injection of tuberculin.

2. As a rule, no such lesions are to be found in those animals in which there is no decided rise of temperature after the injection of tuberculin ; but the exceptions to this rule are more numerous than in the preceding case.

Practically speaking, the exceptions under each of these heads may be regarded as failures or errors in the test, but close examination of the circumstances suggests that some of the exceptions may be explained otherwise than by assuming an inconstancy of action on the part of tuberculin.

Taking, in the first place, the apparent failures in the shape of reaction in animals in which no tuberculous disease is discoverable at the post-mortem examination, it is clear that there is room for error in consequence of an accidental rise in temperature during the period of the test. By accidental rise of temperature is here

(*) It will be observed that this series of animals includes a large number that were experimentally infected, and in which the post mortem examination did reveal tuberculous lesions, but in most of the cases the whole of the lesions could with certainty be attributed to the experimental infection after purchase, and in the others the situation and appearance of the lesions at least made it highly probable that they also were not in existence when the animal failed to react to the first test.

meant an elevation due to any other cause than the tuberculin. The chances of error of this kind may be diminished by making observations on the temperature for some days previous to the intended test, and abstaining from testing any animal in which the temperature has not been normal. In a considerable number of cases such accidental disturbances of the temperature may be recognised by the abrupt rise and fall, but even the curve of a true tuberculin reaction may be simulated by a disturbance of the system from some other cause, and no precautions can entirely eliminate this source of error.

But assuming that a rise of temperature has actually been determined in an animal in which no tuberculous lesions can be found after death, it must be admitted that a small area of disease may escape detection even when the post-mortem examination is of a searching kind. It is, therefore, obvious that even if tuberculin were a perfect diagnostic agent, in the sense that it never produced a reaction in a non-tuberculous animal, it would occasionally appear to be in error. In other words, no test for tuberculosis can be infallible when a rise of temperature is interpreted as evidence of infection, and when failure to discover tuberculous lesions at the post-mortem examination is regarded as proof of freedom from the disease. From a practical point of view the only important question in this connection is—how numerous are the apparent errors? As already stated, they are, according to all published accounts, very few when calculated on a large number of animals tested.

Dealing next with the exceptions to the second rule above stated, it ought to be pointed out that the discovery of tuberculous lesions in animals in which no rise of temperature after the injection of tuberculin has been noted may not in all cases be proof of failure on the part of tuberculin. In the first place, the operator may, in the case of a restless animal, have failed to inject the whole dose of tuberculin under the skin, and, in the second place, he may have made an error in his thermometric observations. Here, again, the practical point is the frequency of the apparent errors of this kind, and the question whether they can reasonably be set down as errors of manipulation or observation on the part of the person conducting the test. It must be admitted that the proportion of such apparent errors is considerable, and that they cannot be reasonably accounted for on any other supposition than that tuberculin sometimes fails to induce a distinct rise of temperature in an animal that is undoubtedly tuberculous. This defect in tuberculin was very soon brought to light, for in the earlier experiments made with the object of testing its accuracy as a diagnostic agent, the animals selected for the test were naturally those that during life presented distinct signs of tuberculosis, and, indeed, were in many cases in the last stage of the disease. A considerable number of these failed to react, although the post-mortem examination proved that they were tuberculous, and subsequent experience has amply confirmed the correctness of these observations. Moreover, many apparently trustworthy observations indicate that tuberculin sometimes fails to induce a reaction in a tuberculous animal, although the disease is not extensive, or in what would be described as its last stage.

Lastly, tuberculin falls short of infallibility, inasmuch as there is in every case a period after infection during which it provokes no reaction, and some of the experiments described in the preceding pages indicate that this period may be longer than has hitherto been supposed.

Even when full account is taken of these possibilities of error, the Committee are of opinion that tuberculin is an agent of great value, far surpassing all other methods of diagnosis, and that if properly employed, it is calculated to render immense service in dealing with tuberculosis.

(*Signed*) NIGEL KINGSCOTE.
G. T. BROWN.
J. M'FADYEAN.

October 30, 1900.

VETERINARY SOCIETIES.

THE CENTRAL VETERINARY MEDICAL SOCIETY.

(*Continued from p. 428*).

Professor MACQUEEN wished to disabuse Mr. Barrett's mind with regard to the very sad state of veterinary surgical affairs in this country. Plantar neurectomy and sciatic neurectomy originated in England, and surely English veterinary surgeons could spare the French or the Germans the credit of introducing median neurectomy! If Englishmen were permitted to experiment a little oftener and with fewer restrictions it was quite possible they might be able to introduce something superior to median neurectomy. With regard to the paper, he congratulated Professor Hobday on the enthusiasm with which he had pursued an operation which had very little to commend it. He was slightly in error regarding the origin of the operation. It was older than 1885, being first performed in Germany, he believed, in 1867, and although the first public account was due to Professor Peters, assistant professor at the Berlin Veterinary School, in 1885, the operation had been peformed before then.

Dealing with other operators, it must be remembered that the operation had not always had a plain sailing, self-satisfying reception. When first performed in Belgium the operation was condemned, and it had been more or less condemned in other countries. A very enthusiastic operator at Milan had an idea that the operation was not only beneficial for lameness situated below the elbow but was likely to benefit shoulder lameness, and it was recorded that that gentleman performed the operation once or twice for the relief of shoulder lameness. Professor Hobday's paper did not seem to contain anything new; and it had a strong savour of an article which recently appeared in the quarterly journal. He did not approve of a Fellow of the Society introducing for the edification of its members a re-hash of an essay that had already been published. The author began by referring to the advantage of the operation because it deprived a large area of sensation. That had not much to recommend it. Neurectomy at best, as Prof. Woodruff had said, was palliative; it was really an apology—the last resort of the baffled veterinary surgeon. Unable to give relief by any other means in his power, he resorted to section of the nerve. Neurectomy would never take a high place in surgery. Prof. Hobday at the close of his essay said something in favour of plantar neurectomy because the area deprived of sensation was small. This appeared to him as a contradiction; certainly it was an inconsistency. If median neurectomy was to be commended because of the large area deprived of sensation it seemed a strange thing that plantar neurectomy should be similarly commended because of the small area. One of the main points to be insisted on in neurectomy was the selection of suitable cases. He thought Professor Hobday's experience of median neurectomy had not been gained in the best kind of practice. Practice which was irresponsible, free of payment, and which really carried no liability was not the best kind of practice upon which to found an

ACUTE ECZEMA (?) IN A HORSE

To illustrate Mr. Wolstenholme's Case (p. 418)

nion regarding an operation. He had seen many es by various operators, and in some instances the ndition of the subject suggested that the surgical per- rmance would be more properly described as mutila- n than operation. He looked upon indiscriminate urectomy, median or any other, as the very worst kind f practice to which a veterinary surgeon could devote s time; and he quite agreed with Mr. Upton and with e suggestion thrown out by Mr. Barrett that median urectomy was the neurectomy which lent itself most fraud. He believed there was no operation which as so frequently performed for the purpose of effecting a le of a horse that would otherwise be too lame to be old, and it seemed to him that if the practice increased he question would arise whether it should be considered air for a veterinary surgeon to give his assistance at hat kind of operation.

With regard to the selection of suitable subjects he maintained—and he based his remarks upon observation of a very large number of cases—that median neurectomy was an operation with a very limited means for good. It was only advisable in certain cases of chronically strained tendons. To practise median neurectomy because a ten- don was strained was very bad treatment and entirely unnecessary, and although it had been performed some- times for the relief of lameness supposed to arise from a knee splint he had not yet had occasion to resort to the operation for the relief of splint lameness. He be- lieved he treated as many cases of splint lameness as other men, but he had never had recourse to median neurectomy for its relief, and he did not believe there were many cases of splint lameness which required any such procedure.

Having referred to the cases he would like to refer to the effects of the operation upon the leg. The tone adopted by Prof. Hobday was a little more moderate than he occasionally indulged in in his writings; he took perhaps a less buoyant view of the operation, and was in- clined to limit its application to a smaller field. His suc- cessor, Prof. Woodruff, also took a guarded view of the operation which, of course, was admirable educationally. So long as one was operating for clients who had no claim for defective diagnosis for bad results, and no right to grumble he did not see why they should not continue to utilise the free practice as a sort of training ground for budding surgeons, but to try to induce the general prac- titioner to adopt an operation which had so many draw- backs was a decided mistake. He had noticed in some cases that there was distinct swelling of the leg some time after the operation. The swelling continued and he did not know in what way it could be reduced. It was a chronic œdema of the leg, and exposed that particular limb to damage from striking. He also noticed what a speaker had already alluded to, viz., itching, another feature of median neurectomy cases which he had obser- ved more than once. He did not say that that was a fault of median neurectomy alone; sometimes it occurred in plantar neurectomy, but he did not know of any way of stopping it. With reference to sores, if a sore broke out upon the leg which had been subjected to median neurectomy from the horse having fallen in the street, or from a blow inflicted by another horse, or accidentally, that sore was exceedingly difficult to heal. As to dura- tion of improvement he was not prepared to accept the simple assertion of any operator regarding the perman- ence of improvement. He had asked Prof. Hobday on more than one occasion to show him a horse—a suitable case—one upon which the operation had been performed as the only available treatment, that was going free from lameness, but he had not yet had that pleasure. He ad- mitted that median neurectomy was capable of improv- ing the action of a lame horse, but to hope that it would restore a horse with thick tendons to absolute soundness or freedom from lameness was absurd. It might be a wise plan to encourage the working of horses which had probably terminated their usefulness in London by re- sorting to that kind of surgery, but he should think twice in ordinary practice before he lent himself to any such proceeding. One remarkable case described by the author was a grey pony operated on in 1895, and it was stated that the horse was still sound. He did not dis- pute that. Assuming the median nerve was divided in 1895 how did Prof. Hobday account for the animal being free from lameness at the present time? Was it due to the fact of the deprivation of sensation below the seat of operation or to delayed re-continuity of the divided nerve, or was it not just as possible that the median nerve was divided during the existence of a lameness which was probably temporary, that the temporary lame- ness had disappeared, and that the horse was now free from it and was likely to continue free as long as it escaped other accidents? He had heard of horses having median neurectomy performed on them for suppurating corn. He held that it was wrong that a horse with a suppurating corn should have the median or any other nerve divided. He had seen horses operated on when they were suffering from sandcrack, another instance of bad selection of cases. He had already indicated that there was a strong motive in the mind of some persons of effecting the sale of an otherwise doubtful horse by resort- ing to the operation, and he believed that the practice was much more common than they were inclined to think.

He had taken the trouble to make an analysis of the last 100 cases. Of this lot 50 per cent. were lost sight of, sold, or could not be traced. A great many of the cases that had disappeared in that way no doubt had found their way into the knacker's yard. Twenty per cent. were destroyed, not necessarily because of median neurectomy, but because of some other diseases perhaps in connection with the operation. There were four deaths; ten per cent. did not recover sufficiently to be useful, while only eleven recovered. His view of that analysis was that it indicated a deplorable condition of the operation. An operation that could not show a better record than that was not one to be lightly under- taken. He would not advise median neurectomy except in some cases of strained tendons and a few diseases of the knee.

Mr. SAVOURNIN protested against the too indiscrimi- nate performance of the operation. He had come to the conclusion that a veterinary surgeon performing the operation for the purpose of selling the horse afterwards was lowering himself to a considerable extent. He con- sidered that no veterinary surgeon should perform the operation unless he had a guarantee, dependent upon the respectability of his client, that the horse was intended to be used afterwards for the purpose of the owner, and not to be sent to the sale yard. Mention had been made of cases where irritation occurred in the lower parts of the limbs after section of the nerve. He thought that was due to irritation at the end of the severed portion of the nerve, and that irritation was referred by the horse's brain to the end of the nerve, because he had been accus- tomed to receive along that nerve sensations from the foot and not from the elbow.

Mr. VILLAR asked the percentage of successes in the operation. A speaker had said that the operation should not be performed until other remedies had been tried, such as firing, blistering, point-firing and so on. If it was such a nice surgical operation, why should it not be done at an earlier stage of the disease, before the poor animal had been blistered, fired, and treated in other painful ways. Like other speakers, he had never per- formed the operation, nor had he seen it done; but he was able to bear testimony to its success in the only two animals which he had subsequently examined. There was no doubt that median neurectomy was liable to bring one into association with a low class of dopers; and if a veterinary surgeon performed the operation he was afraid

he would be looked upon as lending himself to fraud; and for that reason, practising as he did in a country place, he had not performed the operation.

Mr. KING said the first case he saw operated on for median neurectomy was a cob with contracted flexor tendons. The operation was performed in November, 1897, and since that time the cob had been at work, and was still perfectly sound. He had performed the operation with and without success. He had two or three horses at work at the present time which had been operated on since the spring of 1898, two of which were working in cabs. He did not say that they were going positively sound, but they were fit to work. He had performed the operation in one or two cases for bony enlargement of the inside of the fetlock with very marked success. For lameness of the knee or fetlock, he considered that if an animal was still lame after it had been fired and blistered a veterinary surgeon was justified in performing median neurectomy, even though the animal only worked twelve months afterwards.

Prof. WOODRUFF asked if there was any infallible method of diagnosing whether plantar neurectomy had been performed previously. If not, might not a veterinary surgeon pass a horse which had been unnerved below, and so be guilty of the negligence previously alluded to? In the second place, what else was to be done if line-firing, point-firing, blistering, and the various other known methods of treatment had been adopted, and the only alternative was to perform median neurectomy or have the horse destroyed? It seemed to him that median neurectomy was the only thing left. If the operation was successful, so far so good; if not successful, the horse was no worse off than it was before. In the case of the College practice, there they had to do largely with horses worked in hansoms which belonged to poor men, and from a moral standpoint he thought they were doing a great deal more good in enabling a man to earn his living for a longer period than by allowing the horse to be destroyed.

Mr. HUNTING expressed his great regret at not having heard the paper, because he thought he might have heard something about the diagnosis of cases for which the operation was specially useful. It seemed to him that median neurectomy as a rule was a sort of sequel of everything else. As far as he had seen the statistics the diagnosis had been carefully, not suppressed, but omitted, and possibly for very good reasons. As a previous speaker had said, in the college practice it was extremely difficult to know what to do with some cases, and when five or six different causes of lameness were found on one leg, it was a little difficult to diagnose. It seemed to him that the operation, if performed as a scientific operation and not as a fluke, was confined entirely to conditions between the fetlock and the knee—a very limited part of the limb. Every time the median operation was done for foot lameness, an unnecessary length of nerve was divided. Personally, he could not see that there was any advantage in performing median neurectomy for all diseases of the foot or pastern. If Professor Hobday could bring forward the statistics of a number of post-mortems corroborating the diagnosis, the operation would be put on a sound footing.

Prof. HOBDAY, in reply, said he had seen the paper Colonel Nunn referred to in *The Veterinary Record*, and was very pleased with it, because it dealt with a class of horses he had not had an opportunity of examining, namely, riding horses. He had performed the operation on three or four hunters, and in those cases he had warned the owners that they should not ride them after median neurectomy, but should put them in the carriage. He would not care himself to ride a horse that had had median neurectomy performed upon it. He had noticed that the operation was performed in the cavalry school on horses that were ridden, and he presumed jumped and put to pretty severe tests, where a good deal of strain would come on the hock tendons, and the report appeared to be a very favourable one. Mr. Porch had asked if any benefit was to be derived from operating upon the external plantar at the same time. He had done it frequently. In one case the three nerves (median, internal and external plantars) were severed by mistake, the horse got up free from lameness. If external plantar was done, there was increased risk, and that was why he should not advise it unless the animal was still lame after the median wound had healed. The custom adopted at the College was to perform the median operation, to let the animal go for about ten days until the wound was practically healed; and then if he was lame afterwards and there was a ringbone or something for which the external planatar operation was justifiable to do the external plantar operation. He had found that practice good, because in many cases where nine out of ten veterinary surgeons would have said that the lower portion of the leg was the seat of lameness, it had been found that the median operation had put the animal in a condition which had made him work again. In some instances animals had been worked twelve months before they had come back to have the external plantar attended to. He did not consider that a long rest after the operation was necessary; in fact, some of his horses had been working within ten days of the operation. If antiseptic precautions were taken, it was one of the nicest places on the leg for doing surgical work. He was a little doubtful about the question of suturing the fascia. Prof. Woodruff and himself had discussed on one or two occasions whether the sutures would unite the fascia properly, and he could not say that he had followed the question up as much as he should like to have done. With regard to the question as to how one could tell the operation had been performed, if there was no scar or wound in the fascia, he did not see how one could tell. The application of a pin was no good. There were very few wounds made in median neurectomy that healed up without one being able to detect the scar if one looked for it very closely, but there were plenty of cases where the wound healed so that the scar could not be detected unless it was particularly looked for. Mr. Barrett had grumbled because he had not given more details. If he had attempted to go into details the paper would have been too long, and, in addition to that, most members would probably read *The Veterinary Record* or *The Journal of Comparative Pathology and Therapeutics*, in which full details had, from time to time, been given of the operation. With regard to the cutting of the vein, Mr. Barrett must not forget that very many of the operations were done by students who were naturally a little nervous. He had seen the vein cut frequently. He had cut it himself; but he had not seen a case yet where a vein had been cut where they had not been able to finish the operation or stop the hæmorrhage. When a veterinary surgeon had performed the operation a number of times it came much easier than the plantar operation. Referring to Mr. Barrett's opinion as to the additional inflammation of the tendons, he thought that showed the difference between theory and practice. Mr. Barrett theorised that such a thing would occur. As a matter of fact, in practice it did not occur. The case Mr. King mentioned was a splendid instance. The animal had been lame for nine months, had been blistered several times, and sent to grass for about six months. It was badly lame, and the tendons were very hot. After the operation the animal got up almost free from lameness, and the tendons on the day after that were less hot than on the day before. On the third day the swelling and heat had disappeared. Mr. Barrett had said he would expect the exostosis to get much bigger. He had not noticed that; in fact in several instances the exostosis had become smaller. This might follow whether median neurectomy was performed or not. He did not attribute it to the operation.

With regard to the antisepticity of wounds now-a-days could get antiseptic surgery if it was wished. Mr. rett said that no one was justified in doing median rectomy if plantar would do. That was what he said his paper. Professor Macqueen had rather run him wn for bringing forward a paper, the statistics of which d already been published in the journals. He disaed with Prof. Macqueen's view, in fact he arranged t the article should appear in the Journal a short time fore the present meeting in order that the statistics ght be seen and prove useful for the purpose of criti- m and comparison. Prof. Macqueen had said that dian neurectomy was the resort of the baffled surgeon. as it not better to resort to it after everything else had iled rather than to shoot the animal? He did not ink he had been inconsistent. The median operation vered a larger area than the plantar, but he said in the per that if the plantar was sufficient for the purpose it as better only to perform that operation. He agreed that is experience was probably not gained in the best kind of practice, because numbers of the animals were aged, and it was impossible to trace them after a certain length of time. If a cabman was able to work his horse twelve months longer and thus earn his bread, he had good reason to be satisfied. He did not agree that the operation lent itself to fraud any more than the plantar operation. He had seen swelling of the legs after the operation in one or two cases, but as a general rule it did not stop the animal from working, which was the main point. It was not his experience that sores were difficult to cure after an animal had had median neurectomy performed on it; he had seen sores on an animal underneath the seat of median neurectomy which had healed very well indeed. He was quite prepared to admit that he could not convince Prof. Macqueen on anything if that gentleman chose to believe the other way, but it was simply absurd to say that horses were not made useful afterwards.

Prof. MACQUEEN said he did not say that, he said they were not made free from lameness if the cases were properly selected.

Prof. HOBDAY contended that many of them were. Nobody would suggest that suppurating corns and sandcracks should be treated by median neurectomy; the idea was absurd. He thought Prof. Macqueen had misrepresented his statistics. In five years a great many horses would find their way to the knackers' yard, not merely cab horses but others as well. His principal contention was that supposing every other method of operating had failed, if an animal could be made useful by performing median neurectomy it was worth doing. The percentage of successes was sufficiently large to justify the operation, though of course it must to a certain extent depend on the choice of cases and therefore upon the operator. Personally, if he picked 100 cases he thought he could guarantee 80 per cent. of successes. Mr. Villar therefore asked, Then why not do the operation at once? In some cases, mostly old horses, he had done so, thus avoiding giving the animal the pain of firing and blistering. He was sure Mr. Villar would agree with him that no neurectomy should be performed until every other method had failed. If he was absolutely sure that firing and blistering would not benefit the animal, and that median neurectomy was the only thing that would benefit it, he would advise the operation straightaway. Mr. Hunting had called him to task for omitting the diagnosis in the statistics published. In the cases published in a tabular form in *The Veterinary Record* the information was given in a column under the heading "Lameness Diagnosed as due to."

Votes of thanks were unanimously accorded to Prof. Hobday for his paper, and the President for presiding, and the proceedings terminated.

NORTH OF SCOTLAND VETERINARY MEDICAL SOCIETY.

A meeting of this Society was held in the Bon-Accord Hotel, Aberdeen, on Saturday, January 27th, under the presidency of Mr. James M'Bryde, M.R.C.V.S., Strichen. The other members present were: Messrs. Anderson, Keith; Beaton, Elgin (Secretary); Cumming, Culter; Edgar, Inverness; Howie, Alford; Morrison, New Deer; M'Pherson, Huntly; M'Laren, Brechin; Pringle, Ellon; Paterson, Cluny; Peddie, Dundee; Sievwright, Tarland; and Young, Aberdeen.

In his address the PRESIDENT referred to the death of Her Majesty the Queen, and to the late Principal William Williams, Edinburgh, and the memorial which agriculturists, veterinary surgeons, and others intend to raise to his memory. References were also made to the death of Mr. Barron, Echt, and Mr. M'Gillivray, Banff, veterinary surgeons, and former members of the Society.

Mr. J. PEDDIE, F.R.C.V.S., Dundee, read a paper on "Poisoning in milch cows from the use of undecorticated cotton cake." The paper was ably discussed by the members, who all cordially complimented Mr. Peddie on the quality of his paper and thanked him for it.

Mr. PEDDIE replied to the discussion, and defended the views expressed in his communication.

The paper of Mr. D. Morrison, M.R.C.V.S., New Deer, on "Some of the Diseases Incidental to Pregnancy," was held over until next meeting, which is to be held in Inverness on one of the days of the Highland and Agricultural Society's Show.—*Aberdeen Journal.*

EXTRACTS AND NOTES

CAMPAIGNING IN SOUTH AFRICA.

EXPERIENCES OF A VET.

Passing through London on his way from Cape Town to Aberdeen, Mr. M'Lauchlan Young, late of Dundee, now Lecturer on Veterinary Hygiene in Aberdeen University, was good enough to recount to a representative of *The Dundee Advertiser* some of his experiences during the past nine months of the war. Mr. Young is not one of the returned grumblers, of whom one meets so many. He enjoyed campaigning, and he does not growl because at times his rations dwindled to two buscuits a-day. "It might have been worse," is his cheery view of things. It was as a Veterinary Lieutenant with the Scottish Yeomanry that Mr. Young arrived at Table Bay about the middle of March, having gone out with the three other companies which, with the Fife and Forfar Yeomen, composed the Scottish contingent.

At Maitland Camp they were joined by the Fife and Forfar detachment, the strength of the corps being now 520 officers and men. The early wanderings of the column have already been well chronicled. They were sent up country through some of the most disaffected districts of Cape Calony with the object of impressing the Dutch population. At Wellington and Worcester, where they camped for a few days, they had some trivial but significant symptoms of the spirit which later on manifested itself at the Congress, and is now causing much disquietude in Cape Town. From Worcester they trained northward to Warrenton, on the Vaal River, between Kimberley and Mafeking, and near the point where the boundaries of the Transvaal, Orange River Colony, and Griqualand West meet, and there they were attached to Hart's Brigade, forming part of Hunter's division. With Hart they took part in occupation of Christiana, being the first British troops to enter that Transvaal territory, and hoisted the British flag there.

From Christiana they returned to the railway at Phokwani, to find themselves part of the column supporting Mahon, who had now started on his famous dash which ended in the relief of Mafeking. Taungs, Vryburg, Lichtenburg, Ventersdorp, were occupied in succession, and without a blow having been struck, but at Ventersdorp came the news that the redoubtable De Wet—then much less famous than now—was hovering near by, and was about to pounce upon Potchefstroom.

Then began the magnificent forced march of which the Scottish Yeomanry and the other troops concerned may well be proud. Starting from Ventersdorp at four o'clock in the afternoon of 9th June, the column of mounted men, 1500 to 2000 strong, with light transport, and under the command of Mahon, marched, with only one break of half an hour, until eleven o'clock the following morning. At that hour they entered Potchefstroom, having covered 43 miles. De Wet was not there, but the British populace and the blacks turned out in full strength, and greeted the column with wild demonstrations of joy. During their week's stay at the old capital the Scottish Yeomanry contingent was split up, and Mr. Young thenceforth accompanied the Ayrshire and Glasgow companies. His subsequent wanderings cover a considerable portion of the map. Leaving Potchefstroom, the column passed through Randfontein to Krugersdorp, rushing that town in the dead of night to the surprise and discomfiture of its Boer defenders, and hoisting the Union Jack with great ceremony the following day.

Marching through Johannesburg, they were joined at Heidelberg by Hector Macdonald and the Highland Brigade, with uniforms in tatters, but with physique of iron; and at Frankfort they were further reinforced by Bruce Hamilton, the whole division being still under Hunter. Through the north-eastern portion of the Free State the column swept in its search for an enemy to fight; but it was not until the third week of July, to the south of Bethlehem, that they came into serious contact with the Boers. The Scottish Yeomanry, Lovat's Scouts, and the Highland Brigade were now all taking part in Hunter's great encircling movement which compelled the surrender of Prinsloo and his 3500 men on the 30th July, and the important part they played in these operations is too well known to require recapitulation. Next morning the Yeomen marched off under Macdonald to Harrismith, and for three or four weeks afterwards they made themselves useful in escorting convoys to the Lindley and Heilbron districts, finally reaching Kroonstadt on 25 August. Here Mr. Young was left in charge of a detail camp of sick horses and for men requiring a rest, so that he saw no more of actual fighting.

One of his experiences near Kroonstadt is well worth repetition at some length. Some distance from the town, and close to Rhenoster Kop, is the Lace Diamond Mine, the manager of which is Mr. Scott, a Glasgow man. Mr. Young determined upon visiting and inspecting the mine, but knowing that armed Boers were in the vicinity of the Kop, where they were supposed to have supplies of food and ammunition concealed in old mine workings, he doffed his khaki uniform and donned a borrowed suit of humble civilian attire. He reached the diamond mine in safety, and was shown over it by Mr. Scott. In the evening they were sitting outside the manager's house, when to their consternation Van der Merwe, the famed chief of De Wet's scouts, and twenty men galloped up. Mr. Young, promptly recognising the better part of valour, took refuge inside the house, and judiciously kept out of sight until the scouts departed, two hours later. Next morning Mr. Scott and he set out to drive to Kroonstadt, about 15 miles distant. They They had not gone a hundred yards when two armed Boers, dressed in khaki, galloped up, and stopped them with a demand to know their business. Mr. Scott endeavoured to pass Mr. Young as a friend from Cape Town come to see the mine; but the excuse did not satisfy the wideawake Boers, who declared Mr. Young a spy, and insisted upon him appearing before Van der Merwe. The chief sccut himself soon appeared, and speaking good English, questioned the two closely as to their intentions. Finally he allowed them to proceed under an escort of two armed burgers. They led these two latter gentlemen a pretty dance of 15 or 20 miles round the countryside, till at last the Boers gave up in disgust and took themselves off. On reaching Kroonstadt Mr. Young determined to place his information in the hands of the military authorities. Still in the humble civilian garb, he was about to pass through the lines when he was stopped by the sentries, and, failing to give the countersign, his story was discredited, and he was ignominiously marched off through the town under an escort of Tommies with fixed bayonets. The situation was ridiculous and embarassing, but Mr. Young was fortunately able to establish his identity by appealing to some officers in a hotel, and his release was immediately secured. Acting upon the information he supplied, the Commanding Officer despatched a corps of Australians in pursuit of the Boer scouts. They returned with two prisoners, one of them being one of the selfsame gentlemen who had held up Mr. Young on the previous day.

On the subject of the horsing of our army, Mr. Young has formed some interesting conclusions. He holds that the best animals for work of the kind are the Basuto and Burmese ponies. Australian and other Colonial breeds are also excellent, but the Hungarian horses, though very good-looking, are too soft, while the Argentines are absolutely useless, and the ordinary British cavalry horse is too heavy. There is no reason why a moderate-sized horse with a little "blood" should not be bred in England or Scotland, and such an animal would be ideal for remount purposes. The Boers, he says, must have had a great reserve of horses to begin with, but there is no doubt they are now using mares which, in the earlier part of the year, were in foal, and this has to some extent increased their supply, but this source must also soon be exhausted.—*The Scottish Farmer.*

RATE OF GROWTH IN THE HORSE.

One of the most interesting papers in *The Live Stock Journal Almanac* for the current year is that in which Professor Cossar Ewart deals with the subject of the rate of growth in the horse. Professor Ewart, who has acquired so much celebrity because of his experiments in telegony, has made a special study of this subject, and deals with it in a most instructive manner. From one of the several tables which he gives in the course of his paper we take the following details as showing the rate of growth in a horse during the first three years of its existence. It should be added that the animals which formed the subject of these observations were the offspring of horses from 14 hands to 14 hands 2 inches in height, and that the foals and colts were kept under as natural surroundings as possible.

Age.	Height at Withers.	Height at Croup.	Girth	Circumference below knee
	Inches.	Inches.	Inches.	Inches.
At birth	36½	38	30	4¼
End of 1 month	41	42½	38½	4⅝
2 months	42⅛	44⅛	42	5¼
3 „	45⅛	46⅜	46	5⅜
4 „	46¾	48¼	48	5⅝
5 „	48	49	49½	5⅝
6 „	48⅛	49⅝	52	6
7 „	49¾	51¼	53½	6
8 „	50½	52	54	6
9 „	50⅝	53¼	56	6
10 „	51⅝	53⅝	56½	6
11 „	52½	53¾	57¼	6¼
12 „	53	54	59	6¼
24 „	56¼	56½	64	6⅝
36 „	57	58	68	7¼

After tracing the development of the unborn foal in considerable detail, Professor Ewart goes on to discuss the growth of the animal after birth, and shows that during the first year the total increase in height at the withers in animals such as he had under observation, averaged about 16½ inches. During the second year the growth averaged 3¼ inches, and during the third year it amounted to less than 1 inch. After the third year the Professor found that the increase in height—if there be any—results almost entirely from the lengthening of the vertebral spines that form the skeleton of the withers, and not from any increase in the length either of the bones of the shoulders or the legs. Prof. Ewart has also found the increase in height during the first six months—about six inches—is due to the growth of the fore limb from the point of the elbow. During the second six months the increase in the forearm, wrist, and foot is only a little more than one inch, and after the first year the forelimb from the elbow downwards increases to only a very small extent, about half an inch. The circumference below the knee increases considerably during the first three months, but alters little during the rest of the first year. In the case of the hind limb there is a gradual increase from the point of the hock during the first nine months, when the maximum length is often reached. The length of the head gradually increases all through the first year, at the end of which the maximum length is nearly attained. Observations in regard to the development of the body have shown that the girth is almost doubled during the first year of the animal's existence.

In reply to the query:—"Can any practical use be made of all this information as to the rate of growth in a horse," Prof. Ewart writes:—To this question an affirmative answer may be safely given. In England it is often taken for granted that the sire counts for infinitely more than the dam. If the sire happens to be more impressive than the dam he will, doubtless, count for most in the characteristics of the offspring, but a sire, however good, can no more make up for want of quality in the dam than good seed can yield a good return regardless of the nature of the soil in which it is sown. To begin with, it is quite as important that the germ cell provided by the dam should be as perfect in every respect as the infinitely small germ cell supplied by the sire. Further, unless before development begins there is stored up an abundant supply of material needed for the developing embryo, and unless all through the period of gestation the food contains the ingredients requisite for building up the bones and other tissues of the developing foal, the result must of necessity prove disappointing. However perfect the sire, he can no more assist in providing nourishment or suitable conditions during development than he can assist in administering to the wants of the foal after birth.

This inquiry as to the rate of growth of the foal mainly shows that from the sixth week of development there is a steadily increasing demand for bone forming material. This demand, great enough during the later months of gestation, is especially urgent during the first three months after birth, indeed almost during the first five months, for it is during this period that the growth of bone mainly takes place. It may hence be said that the breeder should be better able to so regulate the food of his brood mares that an abundance of bone forming material will be available not only during, but for some months after, gestation, and be in a position to so treat his colts during their first two years that they may reach either a maximum, an average, or a small size, and whatever the size, be provided with the best possible chance of forming large ivory-like bones, and what is, perhaps, of equal importance, strong ligaments and tendons capable of withstanding sudden jars and strains."—*The Farmers' Gazette.*

VELD SORES.

I should like to call attention to a few points in the etiology of the so-called veld or Natal sore, which, so far as I can ascertain, is not a settled question amongst the medical profession in South Africa, and to the relation between this affection so prevalent in this country and the horse tick. During the last eight months with the troops in South Africa I have myself made the following observations as to its occurrence:

1. In the cold weather and at high altitudes the horse tick is rarely found, and there is coincident with this a disappearance of veld sores.

2. Veld sores are more common in the cavalry and artillery ranks than in the infantry regiments, in which case they are mainly confined to bâtmen or grooms.

3. There is, so far as my experience goes, a complete immunity amongst officers, who naturally do not groom their own horses.

4. From the character of the sore it would appear to be of a specific bacterial origin, and not a simple ulcer following on an ordinary abrasion and aggravated by the presence of the ordinary putrefactive germs. This is evidenced by its marked tendency to spread, and at times the slowness with which it heals under treatment.

The edge of the ulcer extends under the superficial layers of the skin, separating them from the deeper layers, and at first, perhaps, forming what would appear to be a blister The skin over this is soon rubbed off, leaving the ulcer exposed with its pink granulations traversed by capillaries, showing as red lines, its somewhat thickened blue margin, and serous discharge from its surface. The tendency of the ulcer is to spread at its periphery, peeling up the skin, and often forming another blister through the adhesion of the dead skin to the surface of the ulcer by the coagulation of the serous discharge which exudes from the surface.

As regards treatment, I have found that wet mild antiseptic applications until the sore has completely healed are the best, and that the application of ointments has invariably led to a relapse, the edge of the ulcer extending under a scab which cakes round the margin.

In a field hospital one cannot do any bacteriological work, but in base hospitals this question may have been investigated more fully from a bacteriological and microscopical point of view. I have asked many medical men, both Colonial and from home, but have met with no explanation of the cause of these ulcers.

J. W. PRIDMORE, M.R.C.S., L.R.C.P.,
Civil Surgeon South African Field Force.
26 British Field Hospital, Natal.
—*The British Medical Journal.*

How a Horse is "Fired."

The death of the great three-year-old racer Lieutenant Gibson, from "firing," has given rise to some inquiry as to what this operation is. It is the treatment for strained leg tendons and consists of searing the flesh with a red-hot iron. It is said that the veterinarian in charge of the racer seared the legs from the knee to the hoof. He first ring-fired them, then cross-fired them, and, as the colt never moved a muscle, he straight-fired them. There was not a half of an inch of space on either leg that was not seared. The usual preparation of vaseline and bandages soaked with alum was applied, but the legs would not respond to the treatment.—*The Baltimore News.*

Personal.

CANE.—On the 3rd inst. at Carlton Villa, Southey Road, Wrexham, the wife of John Cane, M.R.C.V.S., of a daughter.—*The Times.*

ARMY VETERINARY EEPARTMENT.

The Army Veterinary Department was represented, in the procession, at the funeral of Her late Majesty Queen Victoria by Vet.-Lieut.-Col. Rayment and Vet.-Major Moore.

OBITUARY.

W. H. HUNTING, M.R.C.V.S., 16 Trafalgar Sq., Chelsea. Graduated Lond., May, 1893.

Mr. Hunting, eldest son of the Editor of *The Veterinary Record*, died suddenly, from heart failure, on Saturday last, in his 30th year.

HERBERT LEYSHON, M.R.C.V.S., Miskin, Mountain Ash, South Wales. Graduated Edin., December, 1898.

Mr Leyshon was found on the road one night unconscious, and died soon after he was picked up. He was riding home from Merthyr Vale Colleries. The horse had evidently been on the ground, for he was covered with mud, slightly injured, and lame. Mr. Leyshon had been in South Africa for a time, got kicked and was invalided home. He had been married only about six weeks, and was appointed veterinary surgeon for Messrs. Nixon's Colliery Company, Mountain Ash, only about three weeks before he met his death. He was 24 years of age.

CORRESPONDENCE.

PROFESSIONAL ADVERTISING.

Sir,

I herewith enclose cutting from *The Hull Weekly News*, February 2nd, 1901, I should like through *The Veterinary Record* the opinion of the profession. Is this advertising pure and simple, or looking for trade, independency, a hobby, or what? How do we expect the young fry of the profession to live who have spent six or seven hundred pounds to get their diploma, and to be met with advice gratis from a man of thirty years standing and Vet. to the Corporation of the city of Kingston-upon-Hull. What with electric trams, bicycles, patent medicines, cattle pills, powders, unqualified men, and castrators all over the country. If this member of the profession has plenty of money to give advice free why not retire and give others a chance of getting their daily bread.

P.S.—Can we classify poor people. To possess a horse or cow you must at least have £10 or £15; cats and dogs are luxuries. Such like in our local papers wants stopping, especially when men of about 60 years of age commence cutting the trade.—I am, yours,

LIVE AND LET LIVE.

VETERINARY INFIRMARY, ANLABY ROAD, HULL.

I beg respectfully to inform my Clients and the Public in general that I DO NOT RESIDE AT BURSTWICK, as supposed by many, having resided at the above address for the last year and nine months.

COMFORTABLE REFUGE FOR HORSES AND DOGS.

Thanking my Clients for their past favours during the last 30 years, I remain, yours respectfully,

D. R. SOWERBY.

P.S.—Advice Gratis to the poorer class of horse owners from 8 to 9 a.m.

MR. MOLE'S CASE.

Sir,

This case recorded in last week's issue is rather interesting. Mr. Mole does not state if the mare performs in a similar manner in the saddle; I would certainly try her riding, and also in the trap with crupper or tail piece off; by simple measures like those one can get occasionally aid to a better diagnosis in mysterious cases. Is the harness a complete fit, or are there any visible skin abrasions, particularly about where the crupper fits. The symptoms so far as they go exhibit reflex action. Is it possible to be due to formations in the early stage of renal calculi. Are there any tumours or other abnormalities to be found per rectum. The ejection of urine by mares in cases somewhat similar is generally associated with "temper" which in this case seems absent. Medicinal treatment without more definite symptoms is difficult to prescribe. However, if the vaginal and urethral membranes tend to be somewhat dry I should give the mare a couple of draughts daily of the following medicine—R Tinct. hyoscyami, Liq. morphiæ hyd., Liq. potassæ, and mucilage acaciæ, with perhaps a little Ol. copaibæ added, which would form a nice emulsion with the gum. Bicarbonate of soda in the drinking water, the urine being previously tested.

R. O. F. STEWART, M.R.C.V.S.

"VETERINARY CHEMIST."

Sir,

I enclose a cutting taken from *The Consett Guardian* which has been appearing now for some weeks, with a slight interval at Christmas time. I should like to know if a chemist is allowed to use the term *Veterinary Chemist* if he is not a veterinary surgeon? I was always under the impression he must have the degrees M.R.C.V.S. and M.P.S. to so style himself.

I think it is very unfair that such a state of things is allowed to exist, especially when the Council of R.C.V.S. are so strict in regard to advertising by its own members.—Yours truly,

VIS UNITA FORTIOR.

TO FARMERS, GENTRY, AND OTHERS.

MOVEMENT OF SHEEP (LOCAL REGULATIONS).

MILNER'S SHEEP DIP IS EFFECTIVE.

HORSE AND CATTLE MEDICINES.

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COMMUNICATIONS, BOOKS, AND PAPERS RECEIVED:—Messrs. W. M. Ogilvy, J. Temple, R. O. F. Stewart, W. T. Bolton, G. Mayall, F. H. Ridler, E. White Wallis, E. Wallis Hoare, Major R. Moore, Major Nunn, Major D. C. Pallin. "The Doctor Sahib," "Vis unita fortior," "Progress." "Live and let live."

American Veterinary Review.

Original articles and reports should be written on one side only of the paper and authenticated by the names and addresses of the writers, not necessarily for publication.

Communications for the Editor to be addressed 20 Fulham Road, S.W.